

# Cometary Cell C2115

## Track 22

### Images

**Aerogel Cell:** [115\\_mosaic.jpg](#)  
[C2115\\_T1\\_20x.jpg](#)  
[115\\_mosaic\\_with\\_labelled\\_features.jpg](#)

### Track and Grains:

[DSCN3750.jpg](#)  
[DSCN3753.jpg](#)  
[DSCN3755.jpg](#)

### Microtomed samples:

[C2115,24,22,1,0.pdf](#)

### Gold-pressed sample:

[C2115,1,22,0\\_Au\\_press.pdf](#)

### Track History:

Keystone prepared by C. Snead and A. Westphal at Berkeley February 6, 2006 as Track 6 in the UCB system.

Bulb dissected in to halves by Snead at USB.

### Track Characteristics

Type: Bifurcated Carrot

Length: ~3,900  $\mu\text{m}$

Grain diameters: Not measured

### Allocation History

## Results

### Track:

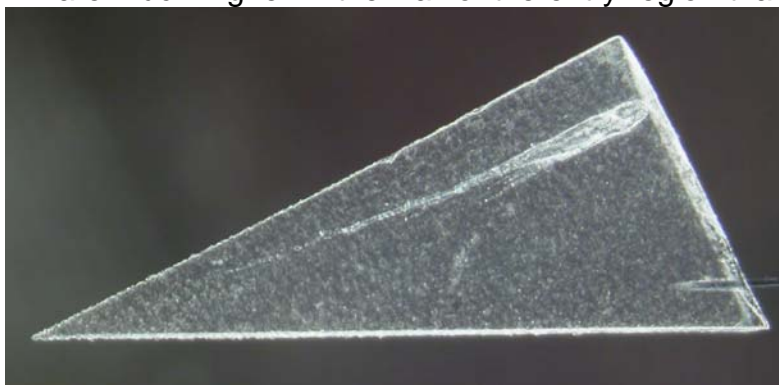
Flynn (SXRF): Overall Track composition – generally approximately chondritic, but Ni/Fe a bit low. High K.

Lanzirotti (XRD): Possible match for forsteritic olivine, though an intense reflection does not match

Westphal (ALS): Ca in the aerogel. XRF spectra were obtained for terminal particles. Generally chondritic, but Ni/Fe varies from low to extremely low compared to CI. The two largest terminal particles, 6.6 and 5, both show sulfur -- suggesting heating did not severely remobilize S in these ~10 to ~20  $\mu\text{m}$  particles. The terminal particles are generally Fe<sup>3+</sup> rich. Particles closer to the entry point in Track 22, the longest track and the only one with large particles along the middle of the length, are Fe<sup>2+</sup> rich. A few weak diffraction spots indicate some crystalline material is present in several particles.

Sutton *et al.* (APS): Both Zn and Ni are much higher in the wall of the entry region than in the terminal particle. We see a bit of S there (not shown in images) as well, and suspect Fe- and Zn- sulfides were deposited along the wall. High Zr spot seen at the end of the track

Joswiak (TEM): Collected a number of EDX analyses of olivine, glass and some other



phases from a ~5 um particle lodged in the wall of Track 22. This particle is essentially a large, reverse-zoned olivine grain and some Mg+Al silicate glass. Three other minor phases - FeZn sulfide, FeNi sulfide and a likely Cr+Fe+Ti oxide (spinel of some kind?) - all seem to occur as inclusions.

Langenhorst (TEM): Reports  $\text{TiO}_2$  among the grain, but  $\text{TiO}_2$  appears to be a contaminant.

**Data Files:** Not available yet